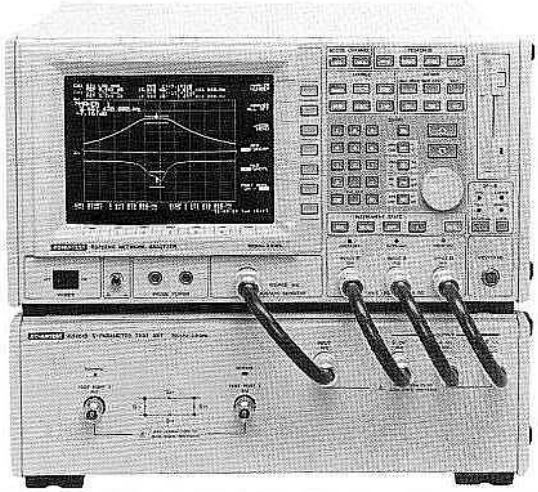
Network Analyzers Suited for Testing Mobile Radio Communications Components



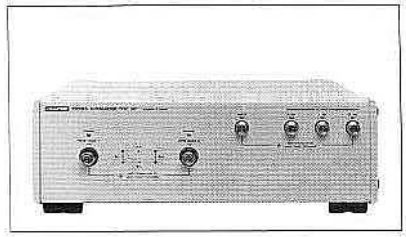
R3762AH/3762BH Network Analyzers

- **300 kHz to 3.6 GHz (with 1 Hz resolution)**
- **High accuracy, High-resolution measurement**
- **High-speed measurement: 0.5 ms/point**
- **Powerful analytical and marker functions**
- **BASIC controller functions**

The R3762AH/3762BH of quasi-microwave vector network analyzers can quickly and accurately measure amplitude, phase, group delay, and impedance in the frequency range of 300 kHz to 3.6 GHz. In addition to its 0.5 ms/point high-speed measurement capability, the R3762AH/3762BH provides high measurement accuracy due to Advantest's exclusive RF analog and digital signal processing technologies. These analyzers also feature numerous useful functions such as those for measuring amplitude ripple and group delay ripple values in a given interval, and for measuring filter bandwidths and Q=Δf/fo measurements at an XdB-down point. These functions are not only easy to use, but also greatly improve the throughput of measuring instruments.

Major differences between the R3762 AH and BH

		R3762AH	R3762BH
Measuring functions	Display channels	2 channels	
	Display parameters	A/R, B/R, A/B	A/R
	Formats	Orthogonal display, Smith chart, Polar coordinate display	
Signal source	Measurement frequency	300 kHz to 3.6 GHzHz/1 Hz resolution	
	Output level	20 dBm to −5 dBm/0.01 dB resolution	13 dBm to −10 dBm/0.01 dB resolution
	Output format	Single	Dual
Sweep time		0.5 ms/point	
Input	Input terminals	3 (Rch, Ach, Bch)	2 (Rch, Ach)
	Input impedance	50 Ω	
Ampulitude measurements	Measuring range	0 ±100 dB	
	Resolution	0.001 dB	
	Accuracy	±0.5 dB (at −10 dBm)	
	Dynamic accuracy	±0.05 dB (at −10 dBm to −60 dBm)	
Phase measurements	Measuring range	±180°	
	Resolution	0.01°	
	Dynamic accuracy	±0.3° (at −10 dBm to −50 dBm)	
Group delay time measurements	Measuring range	1ps to 250 ps	
	Resolution	1ps	
Error compensation functions		Normalize, 1-port calibration, 2-port calibration, data averaging, auto offset compensation	
Instrument state functions		Save, recall, limit line (option) functions	
Programming functions		BASIC controller function, built-in arithmetic functions, FDD function	
Connection with external equipment		Copy, video plotter output signal, GPIB, parallel I/O output, RS-232C	



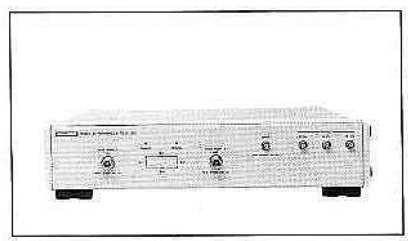
R3961B/3961BN S-Parameter Test Sets

The S-parameter test sets R3961B/3961BN are connected to the network analyzer R3762AH to measure the transmission/reflection characteristics for frequencies of 30 kHz to 3.6 GHz (for R3961B) and 300 kHz to 2 GHz (for R3961BN). The R3961B/3961BN contain the devices necessary for measurement, such as the SWR bridge, power splitter, and switches. They can measure all S-parameters of S11, S12, S21, and S22, without having to change the cable.

(Specifications)

Model		R3961B	R3961BN
Frequency range		300 kHz to 3.6 GHz	300 kHz to 2 GHz
Test port impedance		50 Ω	75 Ω
Directivity		25 dB or more (300 kHz to 5 MHz, 30 dB or more at 25°C ±5°C) 35 dB or more (5 MHz to 1.3 GHz) 30 dB or more (1.3 GHz to 3.6 GHz)	25 dB or more (300 kHz to 5 MHz, 30 dB or more at 25°C ±5°C) 30 dB or more (5 MHz to 2 GHz)
Input port return loss		17 dB or more (300 kHz to 1.3 GHz) 12 dB or more (1.3 GHz to 3 GHz) 10 dB or more (3 GHz to 3.6 GHz)	17 dB or more (300 kHz to 1.3 GHz) 12 dB or more (1.3 GHz to 2 GHz)
Test port return loss		20 dB or more (300 kHz to 1.3 GHz) 16 dB or more (1.3 GHz to 3 GHz) 14 dB or more (3 GHz to 3.6 GHz)	17 dB or more
Frequency characteristic	Transmission amplitude	1.5 dB_{p-p} Typ	3 dB_{p-p} Typ
	Transmission phase	10 deg_{p-p} Typ	20 deg_{p-p} Typ
	Reflection amplitude	1.5 dB_{p-p} Typ	3 dB_{p-p} Typ
	Reflection phase	10 deg_{p-p} Typ	3 deg_{p-p} Typ
Insertion loss	RFIN to PORT 1, 2	6 dB Typ	12 dB Typ
	RFIN to OUTPUT R	21 dB Typ	21 dB Typ
	RFIN to OUTPUT A & B	22 dB Typ	34 dB Typ

RF destructive level: +27 dBm, ±30V DC max.
Test ports 1 and 2 isolation: 90 dB or more
Coaxial switch reproducibility: ±0.03 dB (at the tenth changeover)



R3951A S-Parameter Test Set

The R3951A S-Parameter Test Set is designed for use with the R3751AH Network Analyzers to measure the transmission and reflection characteristics of 2-port devices.